

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 48364 8/8/2000]

[Docket No. 98-NM-355-AD; Amendment 39-11848; AD 2000-15-16]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737, 757, 767, and 777 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD); applicable to certain Boeing Model 737, 757, 767, and 777 series airplanes; that requires a one-time general visual inspection to determine the vendor and manufacturing date of all oxygen masks in the passenger cabin; and corrective action, if necessary. This amendment is prompted by a report that passengers were unable to activate supplemental oxygen generators during an in-flight decompression due to stress corrosion cracking of the crimped copper alloy ferrules used to secure loops on the lanyard ends. The actions specified by this AD are intended to prevent failure of the supplemental oxygen system to deliver oxygen to the passengers and flight attendants in the event of decompression, which could result in injury to passengers and flight attendants.

DATES: Effective September 12, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 12, 2000.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P. O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Susan J. Letcher, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2670; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 737, 757, 767, and 777 series airplanes was published in the **Federal Register** on November 22, 1999 (64 FR 63762). That action proposed to require a one-time general visual inspection to determine the vendor and manufacturing date of all oxygen masks in the passenger cabin; and corrective action, if necessary.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Support for the Proposed AD

Two commenters support the proposed AD.

Request to Extend Compliance Time

Two commenters request that the FAA extend the compliance time for the actions proposed in paragraph (a) from four years to five years. One commenter states that, to comply with the proposed AD, the oxygen masks would have to be accessed twice: once to determine which masks are affected, so that an adequate number of replacement lanyards can be ordered, and a second time, to install the replacement lanyards. The other commenter states that, due to the amount of time needed to access and repack the oxygen masks, the inspection should be accomplished during a major maintenance visit. Thus, the commenters are

requesting that the compliance time be extended to ensure that the inspection can be accomplished on all airplanes during a major maintenance visit.

The FAA concurs with the commenters' request to extend the compliance time for the actions required by paragraph (a) from four years to five years. The FAA concurs that additional maintenance planning and work hours may be necessary to accomplish the inspection. The FAA finds that such an extension of the compliance time will not have an adverse impact on safety. Paragraph (a) has been revised accordingly.

Request to Increase Estimate of Cost Impact

The commenters that request an extension of the compliance time also request that the FAA revise the cost impact information in the proposal to reflect higher work hour estimates. One commenter requests that the work hour estimate be doubled because operators may need to access the oxygen masks twice (as described above). The other commenter states that the estimates in the service bulletin and the proposed rule do not account for the time needed to repack the oxygen masks. The commenter asserts that the masks are generally packed such that the tubing obscures the manufacturer's identification. Thus, it may be necessary to unwrap the tubing to accomplish the inspection, and, following the inspection, the masks would have to be carefully repacked. The commenter estimates that the inspection may actually take 1 to 2 work hours per oxygen mask.

The FAA partially concurs with the commenters' request to increase the cost impact estimate. The FAA does not concur with the commenters' estimates of the number of necessary work hours. The commenter's estimates may include extra time for "incidental" costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. The FAA recognizes that, in accomplishing the requirements of any AD, operators may incur incidental costs in addition to the "direct" costs. Because incidental costs may vary significantly from operator to operator, they are almost impossible to calculate.

However, as stated previously, the FAA acknowledges that the actions required by this AD may take longer than estimated in the proposed rule. The estimated number of work hours stated in the proposed rule was based on a figure of 0.16 work hour per mask. That figure included the 0.15 work hour needed to accomplish the applicable Boeing service bulletin, plus 0.01 work hour to accomplish the Puritan-Bennett service bulletin referenced in the Boeing service bulletins. In consideration of the fact that additional work hours may be necessary to accomplish certain actions required by this AD (e.g., to identify the manufacturer of the masks), the FAA has revised the cost impact information in this final rule to reflect an estimate of 0.25 work hour per mask, rather than the 0.16 work hour per mask estimated in the proposal.

Request to Remove Requirement for Certain Oxygen Masks

One commenter requests that the FAA revise paragraph (a) of the proposed rule to eliminate the requirement to determine the manufacturing date for oxygen masks not manufactured by Puritan-Bennett. The proposed paragraph (a) specifies a general visual inspection to determine both the manufacturer and the manufacturing date of each oxygen mask. The commenter points out that it is only relevant to determine the manufacturing date for masks manufactured by Puritan-Bennett. The commenter states that if the visual inspection establishes that the mask was not manufactured by Puritan-Bennett, no further inspection should be required. The FAA concurs with the commenter's request, and paragraph (a) has been revised accordingly, and new paragraphs (a)(1) and (a)(2) have been added to this AD. However, the FAA notes that, if the manufacturing date of the mask cannot be determined, or if the manufacturing date is between May 1986 and July 1998 inclusive but the manufacturer of the mask cannot be determined, the lanyard must be replaced. Thus, paragraph (b) of this AD has been revised to provide for such instances.

Request to Allow Replacement of Mask in Lieu of Replacement of Lanyard

One commenter requests that the FAA revise paragraph (b) of the proposed rule to allow replacement of the entire mask with a new mask manufactured by another vendor or manufactured outside the subject timeframe, in lieu of replacement of the lanyard only, if a mask is determined to be manufactured by Puritan-Bennett between May 1986 and July 1998.

The FAA partially concurs with the commenter's request. Replacement of an existing oxygen mask with a new mask manufactured by Puritan-Bennett before May 1986 or after July 1998, or manufactured by another vendor, would be acceptable alternatives to replacement of the lanyard, provided that the replacement mask has the same Boeing part number, or provided that the FAA has approved the replacement mask for installation as a replacement. Paragraph (b) of this AD has been revised to provide such replacement as another option for compliance.

Request to Clarify Justification of Proposed Compliance Time

One commenter, the airplane manufacturer, requests that the FAA revise the proposed rule to clarify that the compliance time recommended by the manufacturer is shorter than the compliance time the FAA proposed. The commenter notes that the section, “Differences Between Proposed Rule and Service Bulletin” in the preamble of the proposed rule implies that the FAA proposed a compliance time of four years because the manufacturer’s recommendation would not ensure that operators would comply in a timely manner. The commenter points out that the manufacturer’s recommendation that the service bulletin be incorporated at the next “2C” check would, for most operators, result in accomplishment of the service bulletin earlier than the proposed four-year compliance time.

The FAA acknowledges that the language in the “Differences Between Proposed Rule and Service Bulletin” section of the preamble of the proposed rule may have been misleading. However, this section is not restated in this final rule, so no change to this AD is necessary in this regard. The compliance time recommended by the manufacturer in its service bulletin is indeed more conservative than the compliance time specified in this AD. The FAA finds a five-year compliance time for completing the required actions is warranted, in that it represents an appropriate interval of time allowable for affected airplanes to continue to operate without compromising safety. As stated previously, this compliance time will also allow most operators to accomplish this AD during a major maintenance visit. As explained previously, the compliance time for the requirements of paragraph (a) of this AD has been revised from four years, as proposed, to five years. No other change to the final rule has been made in this regard.

Request to Withdraw Proposed Rule

One commenter requests that the FAA withdraw the proposed rule. The commenter asserts that the proposed AD is not warranted. The commenter points out that tests conducted by the airplane manufacturer show that few lanyards actually failed to hold a ten-pound test load, and those that failed had been subjected to relatively harsh environments where heat and humidity or use of insecticides or ammonia-based cleaning products had been a factor. The commenter states that the inspection and replacement of oxygen masks recommended in the service bulletin is adequate.

The FAA does not concur with the commenter’s assertion that this AD is not warranted. This action is based on an in-flight decompression of a Boeing Model 767 series airplane during which about 30 percent of the lanyards failed when passengers attempted to use the oxygen masks. Investigation revealed that the design of the crimped copper alloy ferrules on the lanyards is susceptible to stress corrosion cracking. Though environmental factors can accelerate the rate of cracking, the FAA finds that such cracking would eventually occur on most masks. The FAA acknowledges that many airplanes do not operate in the most severe environments; for this reason, a relatively long compliance time has been set to allow operators to comply with the requirements of this AD during scheduled maintenance. No change to the final rule is necessary in this regard.

Request to Remove Certain Airplanes from Applicability Statement

One commenter requests that the FAA remove Boeing 737-600, -700, and -800 series airplanes from the “Applicability” statement of the proposed rule. The commenter provides no justification for its request. The FAA does not concur with the commenter’s request. The subject oxygen masks could have been installed on these airplanes either during production or as spares. No change to the final rule is necessary in this regard.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 4,547 Model 737, 757, 767, and 777 series airplanes of the affected design in the worldwide fleet. The FAA estimates 2,206 airplanes of U.S. registry will be affected by this AD.

For Model 737 series airplanes (approximately 1,334 U.S.-registered airplanes), it will take approximately 40 work hours per airplane to accomplish the required actions, at the average labor rate of \$60 per work hour. Required parts will cost approximately \$576 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$3,969,984, or \$2,976 per airplane.

For Model 757 series airplanes (approximately 558 U.S.-registered airplanes), it will take approximately 59 work hours per airplane to accomplish the required actions, at the average labor rate of \$60 per work hour. Required parts will cost approximately \$846 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$2,447,388, or \$4,386 per airplane.

For Model 767 series airplanes (approximately 280 U.S.-registered airplanes), it will take approximately 69 work hours per airplane to accomplish the required actions, at the average labor rate of \$60 per work hour. Required parts will cost approximately \$990 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$1,436,400, or \$5,130 per airplane.

For Model 777 series airplanes (approximately 34 U.S.-registered airplanes), it will take approximately 82 work hours per airplane to accomplish the required actions, at the average labor rate of \$60 per work hour. Required parts will cost approximately \$1,170 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$207,060, or \$6,090 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption “ADDRESSES.”

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



U.S. Department
of Transportation
**Federal Aviation
Administration**

AD's are posted on the internet at <http://av-info.faa.gov>

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2000-15-16 BOEING: Amendment 39-11848. Docket 98-NM-355-AD.

Applicability: Model 737 series airplanes, line numbers 1 through 2984 inclusive; Model 757 series airplanes, line numbers 1 through 798 inclusive; Model 767 series airplanes, line numbers 1 through 682 inclusive; and Model 777 series airplanes, line numbers 1 through 083 inclusive; certificated in any category; and equipped with Puritan-Bennett passenger and flight attendant oxygen masks, as listed in Boeing Service Bulletin 737-35-1049, dated September 17, 1998; 757-35-0014, dated September 10, 1998; 767-35-0033, dated September 10, 1998; or 777-35-0005, dated September 3, 1998; as applicable.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the supplemental oxygen system to deliver oxygen to the passengers and flight attendants in the event of decompression, which could result in injury to passengers and flight attendants, accomplish the following:

Inspection

(a) Within 5 years after the effective date of this AD, perform a general visual inspection to determine the vendor of all oxygen masks in the passenger cabin in accordance with Boeing Service Bulletin 737-35-1049, including Appendix A, dated September 17, 1998 (for Model 737 series airplanes); Boeing Service Bulletin 757-35-0014, including Appendix A, dated September 10, 1998 (for Model 757 series airplanes); Boeing Service Bulletin 767-35-0033, including Appendix A, dated September 10, 1998 (for Model 767 series airplanes); or Boeing Service Bulletin 777-35-0005, including Appendix A, dated September 3, 1998, (for Model 777 series airplanes); as applicable.

NOTE 2: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light, and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

(1) If the oxygen mask is not manufactured by Puritan-Bennett, no further action is required by this AD for that mask.

(2) If the oxygen mask is manufactured by Puritan-Bennett, OR if the manufacturer of the mask cannot be identified, prior to further flight, perform a general visual inspection to determine the manufacturing date of the oxygen mask, in accordance with the applicable service bulletin.

Corrective Action

(b) For each oxygen mask manufactured by Puritan-Bennett or an unidentified manufacturer, if the mask was manufactured between May 1986 and July 1998 inclusive, OR if the manufacturing date cannot be determined: Prior to further flight, accomplish either paragraph (b)(1) or (b)(2) of this AD.

(1) Replace the lanyards on the masks with new lanyards in accordance with Boeing Service Bulletin 737-35-1049, including Appendix A, dated September 17, 1998 (for Model 737 series airplanes); 757-35-0014, including Appendix A, dated September 10, 1998 (for Model 757 series airplanes); 767-35-0033, including Appendix A, dated September 10, 1998 (for Model 767 series airplanes); or 777-35-0005, including Appendix A, dated September 3, 1998 (for Model 777 series airplanes); as applicable.

(2) Replace the existing oxygen mask with a new mask that was manufactured by Puritan-Bennett before May 1986 or after July 1998, or by another vendor, and that has the same Boeing part number, or that is FAA-approved for installation as an alternative to the Puritan-Bennett mask.

Spares

(c) As of the effective date of this AD, no person shall install an oxygen mask manufactured by Puritan-Bennett between May 1986 and July 1998 inclusive, on any airplane, unless the lanyard has been replaced with a new lanyard in accordance with paragraph (b) of this AD.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(f) The actions shall be done in accordance with Boeing Service Bulletin 737-35-1049, including Appendix A, dated September 17, 1998 (for Model 737 series airplanes); Boeing Service Bulletin 757-35-0014, including Appendix A, dated September 10, 1998 (for Model 757 series airplanes); Boeing Service Bulletin 767-35-0033, including Appendix A, dated September 10, 1998 (for Model 767 series airplanes); or Boeing Service Bulletin 777-35-0005, including Appendix A, dated September 3, 1998 (for Model 777 series airplanes); as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(g) This amendment becomes effective on September 12, 2000.

FOR FURTHER INFORMATION CONTACT: Susan J. Letcher, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2670; fax (425) 227-1181.

Issued in Renton, Washington, on July 31, 2000.

Donald L. Riggan, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.